

DOCKET NO: 265706US0X PCT

IN THE UNITED STATES PATENT & TRADEMARK OFFICE

IN RE APPLICATION OF :
MITSURU TAKEI, ET AL. : EXAMINER: ROBERTS, L.
SERIAL NO: 10/530,558 :
FILED: APRIL 7, 2005 : GROUP ART UNIT: 1614
RCE FILED: MARCH 28, 2007
FOR: DENTAL COATING KIT :

APPEAL BRIEF

COMMISSIONER FOR PATENTS
ALEXANDRIA, VIRGINIA 22313

SIR:

This is an appeal of the Rejection dated November 30, 2007 of twice-rejected Claims 8-10 and 12-15. A Notice of Appeal is **submitted herewith**.

I. REAL PARTY IN INTEREST

The real party in interest in this appeal is Kuraray Medical Inc., having an address at 1621, Sakazu, Kurashiki-shi, Okayama 710-8622, Japan.

II. RELATED APPEALS AND INTERFERENCES

Appellants, Appellants' legal representative and the assignee are aware of no appeals, interferences, or judicial proceedings which may be related to, directly affect or be directly affected by or have a bearing on the Board's decision in this appeal.

III. STATUS OF THE CLAIMS

Claims 8-10 and 12-15 stand rejected and are herein appealed. Claims 1-7, 11 and 16-17 have been canceled.

IV. STATUS OF THE AMENDMENTS

No amendment under 37 CFR 1.116 has been filed.

V. SUMMARY OF THE CLAIMED SUBJECT MATTER

A summary of the claimed subject matter, as claimed in sole Claims 8 and 15, is mapped out below, with reference to page and line numbers in the specification added in **[bold]** after each element.

The claimed subject matter, as recited in Claim 8, is a dental coating kit **[page 25, lines 7-10 and lines 16-17]** comprising:

a primer composition **[page 25, line 10]** including at least one **[page 8, lines 15-16]** acidic group-containing monomer (a), **[page 25, lines 10-11]** water (b) **[page 25, line 11]** and at least one **[page 10, lines 13-14]** water-soluble solvent (c) **[page 25, lines 11-12]** comprising a hydrophilic monomer **[page 9, lines 12-15]** in an amount of at least 10 wt% based on the total weight of the primer composition; **[page 10, lines 16-19]**

a coating composition **[page 25, line 20]** having viscosity at 30°C of 300 cP through 50,000 cP **[page 35, lines 13-15]** and including at least one monomer (d) and at least one photopolymerization initiator (e) **[page 26, lines 1-2]**; and

a surface smoothing composition **[page 25, lines 13-14]** including at least one **[page 19, lines 14-18]** polyfunctional monomer (f), at least one **[page 21, lines 1-2]** volatile solvent (g) **[page 25, lines 14-15]** and at least one **[page 21, lines 16-17]** photopolymerization initiator (h). **[page 25, line 15]**

The claimed subject matter, as recited in Claim 15, is a dental coating method **[page 35, lines 20-21]** comprising

applying, on a tooth, a primer composition including at least one acidic group-containing monomer (a), water (b), at least one water-soluble solvent (c) comprising a hydrophilic monomer in an amount of at least 10 wt% based on the total weight of the primer composition, and, optionally, at least one polymerization initiator;

forming a primer layer by drying or polymerically curing the primer composition;

[paragraph bridging pages 35 and 36]

applying, on the primer layer, a coating composition having viscosity at 30°C of 300 cP through 50,000 cP and including at least one monomer (d) and at least one photopolymerization initiator (e);

forming an intermediate layer by polymerically curing the coating composition through light irradiation; **[page 36, lines 3-8]**

applying, on the intermediate layer, a surface smoothing composition including at least one polyfunctional monomer (f), at least one volatile solvent (g) and at least one photopolymerization initiator (h); and

forming a surface layer by polymerically curing the surface smoothing composition through light irradiation. **[page 36, lines 9-12]**

VI. GROUNDS OF REJECTION

Claims 8-10 and 12-15 stand rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the description requirement.

VII. ARGUMENT

Claims 8-10 and 12-15 stand rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the description requirement. That rejection is untenable and should not be sustained.

The Examiner finds that the recitals of various monomers and of at least one acidic monomer, fail to satisfy the description requirement.

Particularly, the Examiner states that “[t]he appearance of mere indistinct words in a specification or a claim (here the word ‘monomer’), even an original claim, does not necessarily satisfy the written description requirement. The disclosure must allow one skilled in the art to visualize or recognize the identity of the subject matter purportedly described.” The Examiner cites *University of Rochester v. G. D. Searle*, 69 USPQ2d 1886, 1892 (Fed. Cir. 2004).

In reply, *Rochester* found that a claim to method involving applying a compound to reduce the activity of enzyme PGHS-2 without adversely affecting enzyme PGHS-1 activity, where no compounds having this capability were described in the specification, did not satisfy the description requirement.

Rochester is inapposite herein. All of the presently-recited limitations of the claims find verbatim or substantially verbatim support in the specification. In addition, Applicants have described many examples for each of the monomeric components of the various compositions recited in the claims.

The Examiner finds that for those claims reciting a composition including a photopolymerization initiator, the corresponding monomers of that composition are not recited as photopolymerizable monomers but as simply monomers, which the Examiner finds encompass any monomer.

In reply, it is clear that if a photopolymerization initiator is present in the composition, the monomer(s) would need to include at least some photopolymerizable monomers, as would be well understood by persons skilled in the art. As stated in *Atlas Powder Co. v. E.I. du Pont de Nemours & Co.*, 750 F.2d 1567, 1577, 224 USPQ 409, 414 (Fed. Cir. 1984):

Even if some of the claimed combinations were inoperative, the claims are not necessarily invalid. “It is not a function of the claims to specifically exclude * * * possible inoperative substances * * *” *In re Dinh-Nguyen*, 492 F.2d 856, 858-59, 181 USPQ 46, 48 (CCPA 1974) (emphasis omitted). Accord, *In re Geerdes*, 491 F.2d 1260, 1265, 180 USPQ 789, 793 (CCPA 1974); *In re Anderson*, 471 F.2d 1237, 1242, 176 USPQ 331, 334-35 (CCPA 1973). Of course, if the number of inoperative combinations becomes significant, and in effect forces one of ordinary skill in the art to experiment unduly in order to practice the claimed invention, the claims might indeed be invalid. See, e.g., *In re Cook*, 439 F.2d 730, 735, 169 USPQ 298, 302 (CCPA 1971). That, however, has not been shown to be the case here.

Clearly, inoperable embodiments would not be included in the claims.

Regarding monomer (f) of the surface smoothing composition, the Examiner finds that “this monomer ‘includes’ monomers having three or more olefin double bonds but does not disclose examples of what this encompasses such as the structure, the size, what other groups may be included on the monomer, what other types of monomers are included or if the monomer is photopolymerizable.”

In reply, Applicants list exemplary monomers (f) in the specification at the paragraph bridging pages 19 and 20. Since the surface smoothing composition also includes at least one photopolymerization initiator (h), it necessarily follows that the at least one polyfunctional monomer (f) must include at least some photopolymerizable polyfunctional monomers. One skilled in the art would be able to select applicable monomers based on the monomers exemplified.

The Examiner finds that regarding the coating composition, “it appears the ‘monomer’ is a hydrophilic, hydrophobic monomer or a mixture of the two. The examples of the hydrophilic monomer includes methacrylic based monomers with a solubility at 25°C of 10 wt.% or more and the hydrophobic monomers are esters with a solubility at 25°C of 10

wt.% or less. The specification does not give other examples of hydrophilic monomers or hydrophobic monomers to support the term ‘monomer’ nor does it disclose if the monomers are photopolymerizable monomers considering a photopolymerization initiator is included in the composition.”

In reply, Applicants describe this monomer, i.e., at least one monomer (d) in the specification at page 26, line 3 through page 29, line 21. Applicants describe therein examples of this monomer as well as the properties desired. In addition, as discussed above, since the coating composition requires at least one photopolymerization inhibitor (e), it necessarily follows that at least one monomer (d) necessarily includes monomers which are photopolymerizable.

Regarding the term “at least one acidic monomer”, the Examiner finds that the specification lists various acid groups as applicable acidic groups and that the monomer also has a polymerizable unsaturated group, and various such groups are listed. (While the Examiner does not cite to any particular part of the specification, Applicants advise the Board that this description is at page 4, lines 15-21.) The Examiner finds that “[a]lthough the specification gives specific examples of acryloyl group or a methacryloyl comprising monomer, it does not disclose examples of other monomers or indicate what other types of monomers are acidic monomers other than the four classes disclosed above. It does not disclose monomers comprising several acidic groups or indication [sic] how one would determine how many acidic groups are encompassed by ‘at least one acidic group’.”

In reply, the term “at least one acidic group-containing monomer (a)” means there may be more than one monomer having an acidic group, not one monomer having a plurality of acidic groups, although such monomers are not necessarily excluded. This component is described in the specification as securing the adhesiveness to teeth, at page 4, lines 14-15. Numerous examples are listed, beginning at page 4, line 14 through page 8, line 21.

While the present rejection is couched in terms of failing to comply with the description requirement, it appears, based on the Examiner's stated rationale, that the Examiner intended the enablement requirement of 35 U.S.C. § 112, first paragraph. Nevertheless, as argued above, the present claims comply with both the description requirement and the enablement requirement.

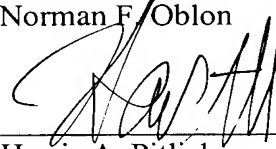
For all the above reasons, it is respectfully requested that this rejection be REVERSED.

VIII. CONCLUSION

For the above reasons, it is respectfully requested that all the rejection be REVERSED.

Respectfully submitted,

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CLAIMS APPENDIX

Claim 8: A dental coating kit comprising:

a primer composition including at least one acidic group-containing monomer (a), water (b) and at least one water-soluble solvent (c) comprising a hydrophilic monomer in an amount of at least 10 wt% based on the total weight of the primer composition;

a coating composition having viscosity at 30°C of 300 cP through 50,000 cP and including at least one monomer (d) and at least one photopolymerization initiator (e); and

a surface smoothing composition including at least one polyfunctional monomer (f), at least one volatile solvent (g) and at least one photopolymerization initiator (h).

Claim 9: The dental coating kit according to Claim 8,

wherein the primer composition includes the acidic group-containing monomer (a) in an amount of 1 wt% through 90 wt%, the water (b) in an amount of 0.1 wt% through 90 wt% and the water-soluble solvent (c) in an amount of 10 wt% through 98 wt%,

the coating composition includes the monomer (d) in an amount of 40 wt% through 99.99 wt% and the photopolymerization initiator (e) in an amount of 0.01 wt% through 10 wt% based on the monomer (d), and

the surface smoothing composition includes the polyfunctional monomer (f) in an amount of 40 wt% through 98 wt%, the volatile solvent (g) in an amount of 1 wt% through 59 wt% and the photopolymerization initiator (h) in an amount of 0.01 wt% through 10 wt% based on a total weight of monomer(s) included in the surface smoothing composition.

Claim 10: The dental coating kit according to Claim 8 or 9,

wherein the coating composition further includes an inorganic filler with a refractive index of 1.9 or more and colloidal silica.

Claim 12: The dental coating kit according to Claim 8,
wherein the monomer (d) includes a hydrophobic monomer and a hydrophilic monomer, and
the coating composition includes the hydrophilic monomer in an amount of 5 wt% through 50 wt%.

Claim 13: The dental coating kit according to Claim 12,
wherein the hydrophilic monomer is 2-hydroxyethyl methacrylate.

Claim 14: The dental coating method according to Claim 15,
wherein the tooth is a bleached tooth.

Claim 15: A dental coating method comprising
applying, on a tooth, a primer composition including at least one acidic group-containing monomer (a), water (b), at least one water-soluble solvent (c) comprising a hydrophilic monomer in an amount of at least 10 wt% based on the total weight of the primer composition, and, optionally, at least one polymerization initiator;
forming a primer layer by drying or polymerically curing the primer composition;
applying, on the primer layer, a coating composition having viscosity at 30°C of 300 cP through 50,000 cP and including at least one monomer (d) and at least one photopolymerization initiator (e);
forming an intermediate layer by polymerically curing the coating composition through light irradiation;

applying, on the intermediate layer, a surface smoothing composition including at least one polyfunctional monomer (f), at least one volatile solvent (g) and at least one photopolymerization initiator (h); and

forming a surface layer by polymerically curing the surface smoothing composition through light irradiation.

Application No. 10/530,558
Appeal Brief

EVIDENCE APPENDIX

None.

Application No. 10/356,598
Appeal Brief

RELATED PROCEEDINGS APPENDIX

None.